

**A NEW SPECIES OF *TRICHACIS*
(HYMENOPTERA: PLATYGASTRIDAE)
FROM TEXAS, ASSOCIATED WITH *SPHAERALCEA*
(MALVACEAE)¹**

Matthew W. MacGown²

ABSTRACT: *Trichacis crossi* n. sp., associated with *Sphaeralcea* (Malvaceae) is described from Texas. This is only the fifth species of *Trichacis* to be associated with a definite host plant; it is related to *T. huberi* and *T. rufipes*.

Trichacis crossi n. sp. was reared from *Sphaeralcea angustifolia* (Cav.) in Texas. The hosts for most of the fifteen nearctic species of *Trichacis* are unknown; *T. alticola* Masner is associated with *Populus*, *T. arizonensis* Ashmead with *Ephedra*, *T. celticola* Masner with *Celtis*, and *T. cornicola* Ashmead with *Cornus*. *Trichacis arizonensis* and *T. cornicola* were reared from galls of *Ephedra* and *Cornus*, respectively (Masner, 1983). *Trichacis crossi* is presumed to be parasitic on a cecidomyiid inhabiting *Sphaeralcea angustifolia*, and was reared by Dr. William H. Cross as part of a study of alternative hosts for the boll weevil and its parasites.

***Trichacis crossi* MacGown, new species**

Figs. 1-14

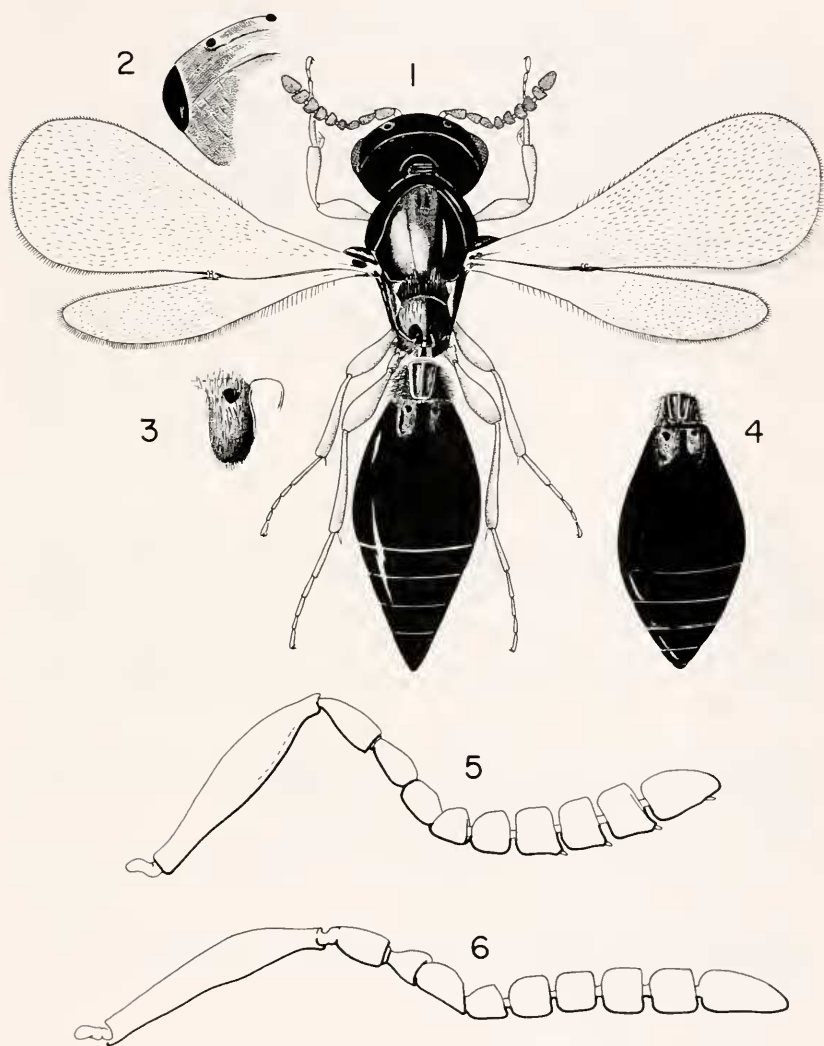
Female. Length 2.1 mm. Head and thorax black, the head with a reddish cast; abdomen and coxae dark reddish brown, fore legs bright yellow, mid and hind legs reddish brown; wings clear.

Head transverse (52:26), oval in top view; occiput smooth and shining medially, strongly reticulate and hairy at the sides; hyperoccipital carina distinct, with several fine, irregular striae just below; temples smoothly rounded; lateral ocellus slightly closer to eye than to anterior ocellus (8:11); space between lateral ocelli and eye, and lateral ocelli and anterior ocellus reticulate; area between lateral ocelli partly reticulate, the lateral ocelli bridged by aciculation; frons smooth and shining, the inner orbits with a thin line of sparse reticulation below; 4-5 fine striae curving above the antennal toruli and clypeal process; mandibles clasped, the teeth equal; relative length: width ratios of the antennomeres (A-I to A-X) (Fig. 5), measured from a paratype:

I	90:18	VI	14:16
II	25:11	VII	15:18
III	20:10	VIII	14:19
IV	16:11	IX	14:19
V	15:13	X	28:16

¹Received February 20, 1988. Accepted August 8, 1988.

²Magnolia Scientific Research Group and Research Associate Mississippi Entomology Museum Mississippi State University Starkville, Miss.



Figs. 1-6. *Trichacis crossi* n. sp. 1. Female, habitus. 2. back of head. 3. Basal foveolus. 4. Male abdomen. 5. Female antenna. 6. Male antenna.

Thorax narrower than head (45:50), somewhat elongate (65:45); notaulices abbreviated slightly before the anterior margin of the mesoscutum; median lobe of mesoscutum densely reticulate on the anterior third, smooth and shiny beyond; lateral lobes with only a thin line of dense reticulation in front, the rest smooth and shiny; prescutellar pit covered by long silvery pubescence; scutellum weakly convex, covered with long silvery pubescence; the specialized medial area heart shaped, with a dense brush of gray setae; forewings not reaching tip of abdomen.

Abdomen elongate and pointed, slightly more than twice as long as wide (118:50); abdominal tergite I (T-I) transverse (15:20), with a central keel in the median plate, the triangular sides broad and very hairy; tergite II elongate (55:48), basal foveoli deep and filled with fine silvery pubescence; middle plate narrow, smooth, ridged at the sides; tergite II apically with a band of fine punctures; tergites III to VI combined nearly as long as the width of tergite II (45:48), tergite III with a punctate band only at the apex, tergites IV to V punctate basally and apically, tergite VI punctate only basally; tergites-III to VI each with long silvery pubescence especially at the sides.

Male. Similar to the female, differing in the following characteristics: forelegs reddish brown, not yellow as in the female; relative length: width ratios of the antennomeres (Fig. 6), measured from a paratype:

I	85:16	VI	15:15
II	20:11	VII	15:15
III	15:12	VIII	15:17
IV	22:12	IX	16:17
V	14:12	X	32:15

Center of occiput depressed, not perfectly smooth, with faint concentric aciculation around the depression, sides of the occiput densely reticulate; hyperoccipital carina sharp; ocellar triangle almost thoroughly reticulated but still weakly aciculate between the posterior ocelli; curved striae above clypeal process and antennal toruli more numerous than in the female, the lower face not mirror-like but with vague transverse sculpture; thorax as in female; abdomen also as in female except shorter, not as pointed, abdominal tergite VII very small; tergites I and II essentially as in the female, middle plate of tergite II slightly more channeled at the edges.

Types. Holotype: female, "Texas, Presidio Co., 35 mi. upriver from Presidio, 14 July 67, W.H. Cross, #101.7; emerged from *Sphaeralcea anquistipennis* [lapsus for *anquistifolia*] 7/25-8/10/67" Deposited in the Mississippi Entomology Museum.

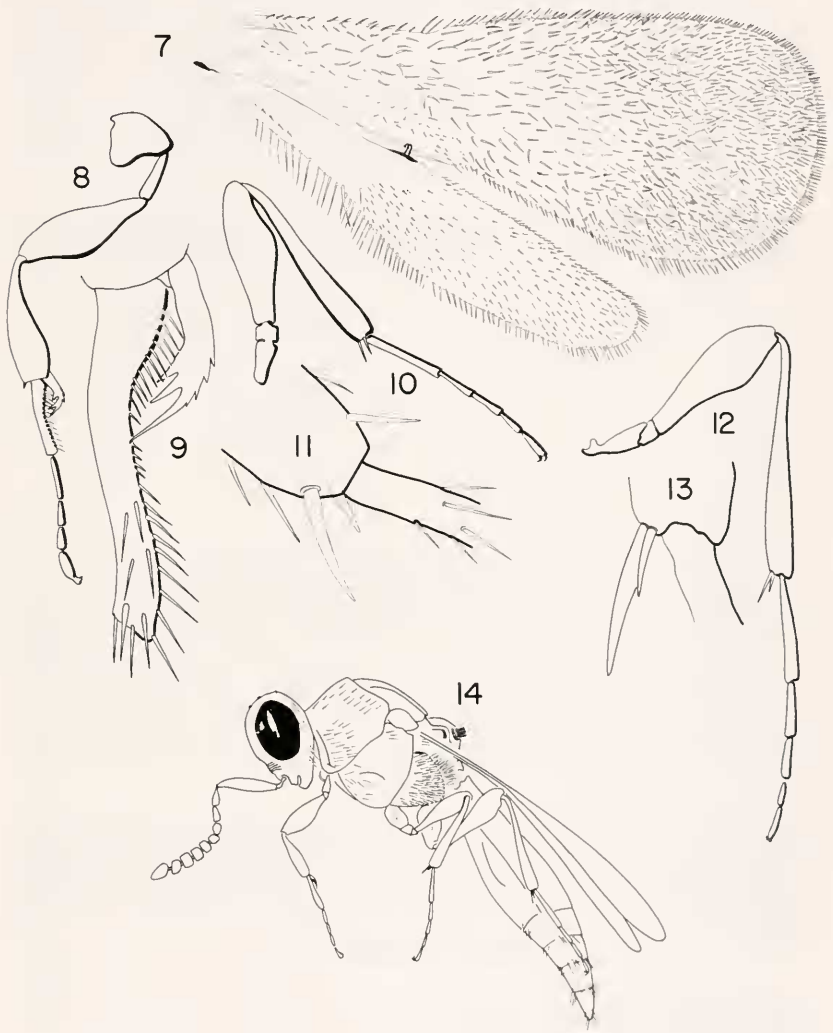
Paratypes: 26 females, 8 males with same data as holotype except with the numbers 101.1 to 101.7. Deposited in the Mississippi Entomology Museum, The U.S. National Museum, and the Canadian National Collection.

Other Specimens. Two other specimens, male and female, possibly the same species: "Texas, Presidio, Slack Bridge, 8-29-65, T.L. Chesnut"; condition of specimens too poor for certain identification.

Distribution. Known only from the types, Texas.

Biology. Presumably parasitic on a cecidomyiid inhabiting *Sphaeralcea anquistifolia* (Cav.) (Malvaceae).

Variability. Some specimens are predominantly reddish brown



Figs. 7-14. *Trichacis crossi* n.sp. 7. Wings. 8. Foreleg. 9. Fore basitarsus. 10. Midleg. 11. Tip of midtibia. 12. Hindleg. 13. Tip of hindtibia. 14. Female, side view.

(possibly still somewhat teneral) except for the thorax, which remains black; striae above the antennal toruli are faint in some specimens; surprisingly, the occiput is not smooth medially in all specimens but some times has faint to moderately strong concentric aciculation, particularly in the males. In one male with aciculate occiput the middle lobe of abdominal tergite II is also faintly aciculate. This variation is comparable to that in other species of Platygastriidae, in which the males are frequently more strongly sculptured than the females.

DISCUSSION

Trichacis crossi has characters intermediate to *T. huberi* Masner and *T. rufipes* Ashmead, and may be diagnosed by the following characters:

	<i>crossi</i>	<i>huberi</i>	<i>rufipes</i>
Legs:	yellow to light reddish brown	brown	yellow
A-VIII-IX:	transverse	quadrate	elongate
Punctuation, T-III-VI:	weakly punctate	weakly punctate	densely punctate
Length, T-III-VI:	equal to width of II	shorter than width of II	shorter than width of II

Masner (1983) described *T. huberi* on the basis of a single female from California, noting that it had "considerably dark antennae and legs", and that it is a "remarkably melanic species", hence not fitting *crossi* at all in this respect, which has brightly colored legs and basal parts of the antennae and an overall reddish cast except for the thorax. Tergites III-VI of *T. rufipes* are thoroughly and densely punctate, whereas in *T. crossi* these tergites are at most crossed by basal and apical bands of fine punctures, leaving the middle smooth.

Etymology. This species is named after Dr. William H. Cross, founder and developer of the Mississippi Entomology Museum, and contributor of many hundreds of parasitic Hymenoptera, among thousands of other insects.

ACKNOWLEDGMENTS

I would like to thank Paul Marsh, USDA Systematic Entomology Laboratory, for sending *Trichacis rufipes* Ashmead for comparison; also R.L. Brown, T.E. Nebeker for reviewing the manuscript.

LITERATURE CITED

Masner, L. 1983. Revision of the Nearctic species of *Trichacis* Foerster (Hymenoptera: Proctotrupoidea: Platygastriidae). Can. Entomol. 115:1071-1093.